[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0290; Project Identifier AD-2021-01266-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 787-8, 787-9, and 787-10 airplanes. This proposed AD was prompted by a report from Boeing that Rolls-Royce Deutschland Ltd & Co KG (RRD) discovered a design issue in the engine fuel feed system, which could result in fuel flow restrictions to both engines when ice that has accumulated in the airplane fuel feed system suddenly releases into the engines. This proposed AD would require revising the existing airplane flight manual (AFM) to update the limitations on minimum fuel temperatures. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to https://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2022-0290; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3553; email: Takahisa.Kobayashi@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2022-0290; Project Identifier AD-2021-01266-T" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any

personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Takahisa Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3553; email: Takahisa.Kobayashi@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA has received a report from Boeing that affects certain Model 787-8, 787-9, and 787-10 airplanes, with RRD Model Trent 1000 engines installed. RRD discovered and reported to Boeing that a design issue in the engine fuel feed system could result in fuel flow restrictions to both engines when ice that has accumulated in the airplane fuel feed system suddenly releases into the engines. The sudden release of accumulated ice into the engine fuel feed system, in combination with low fuel temperatures, could cause freezing temperatures at the inlet of certain engine fuel feed system components. This condition, if not addressed, could result in fuel flow restrictions

to both engines, causing a potential loss of dual engine thrust control and reduced controllability of the airplane.

Explanation of Applicability

The applicability of this proposed AD includes additional designations for RRD Model Trent 1000 engines not explicitly identified on the model list of the FAA Type Certificate Data Sheet (TCDS) Number E00076EN, but are identified on the EASA TCDS EASA.E.036. The parenthetical text included in paragraph (c) of this proposed AD is an additional identifier for RRD Model Trent 1000 engines that specifies certain build standards have been incorporated on the engine. The designation of "/01" identifies RRD Model Trent 1000 engines on which Service Bulletin 72-G319 has been incorporated, and "/01A" identifies RRD Model Trent 1000 engines on which Service Bulletin 72-G893 has been incorporated.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require revising the existing AFM to update the limitations on minimum fuel temperatures.

Compliance With AFM Revisions

Section 91.9 prohibits any person from operating a civil aircraft without complying with the operating limitations specified in the AFM. FAA regulations also require operators to furnish pilots with any changes to the AFM (14 CFR 121.137) and pilots in command to be familiar with the AFM (14 CFR 91.505).

Interim Action

The FAA considers this proposed AD interim action. Boeing is currently working with RRD to develop updated electronic engine control (EEC) software, which will change the engine oil temperature amber line indicated in the engine indication and crew alerting system (EICAS). This change will ensure that, before takeoff, the engine oil temperature would be warm enough to operate the engine with cold fuel. The updated EEC software combined with the action required by this proposed AD will address the unsafe condition identified in this AD. Once this software is developed, approved, and available, the FAA might consider additional rulemaking.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 14 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Revising the existing AFM	1 work-hour X $85 per hour = $85	$0	$85	$1,190

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

The Boeing Company: Docket No. FAA-2022-0290; Project Identifier AD-2021-01266-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 787-8, 787-9, and 787-10 airplanes, certificated in any category, with Rolls-Royce Deutschland Ltd & Co KG Model Trent 1000-A (including -A/01 and -A/01A), Trent 1000-A2, Trent 1000-AE (including -AE/01A), Trent 1000-AE2, Trent 1000-AE3, Trent 1000-C (including -C/01 and -C/01A), Trent 1000-C2, Trent 1000-CE (including -CE/01A), Trent 1000-CE2, Trent 1000-CE3, Trent 1000-D (including -D/01 and -D/01A), Trent 1000-D2, Trent 1000-D3, Trent 1000-E (including -E/01 and -E/01A), Trent 1000-E2, Trent 1000-G (including -G/01 and -G/01A), Trent 1000-G2, Trent 1000-G3, Trent 1000-H (including -H/01 and -H/01A), Trent 1000-H2, Trent 1000-H3, Trent 1000-J2, Trent 1000-J3, Trent 1000-K2, Trent 1000-K3, Trent 1000-L2, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, or Trent 1000-R3 engines installed.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by a report from Boeing that Rolls-Royce Deutschland Ltd & Co KG discovered a design issue in the engine fuel feed system, which could result in fuel flow restrictions to both engines when ice that has accumulated in the airplane fuel feed system suddenly releases into the engines. The sudden release of accumulated ice into the engine fuel feed system, in combination with low fuel

temperatures, could cause freezing temperatures at the inlet of certain engine fuel feed system components. The FAA is issuing this AD to address possible fuel flow restrictions to both engines, which could result in loss of dual engine thrust control and reduced controllability of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Airplane Flight Manual (AFM) Revision

Within 30 days after the effective date of this AD, revise the existing AFM to incorporate the information specified in figure 1 to paragraph (g) of this AD into the "Certificate Limitations" chapter of the applicable Engine Appendix of the existing AFM.

Figure 1 to paragraph (g) – *Fuel System – Minimum Tank Fuel Temperature*

FUEL SYSTEM

(REQUIRED BY AD **-**-**)**

The fuel tank temperature limits below must be followed, even when using fuel system icing inhibitor:

- Prior to takeoff, the tank fuel temperature must be at -28 °C or warmer.
- In-flight, the tank fuel temperature must be maintained at -28 °C or warmer, as well as 3 °C above the freezing point of the fuel being used.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(i) Related Information

For more information about this AD, contact Tak Kobayashi, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3553; email: Takahisa.Kobayashi@faa.gov.

Issued on March 17, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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